
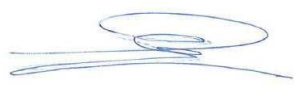




Validation report form for renewal of crediting period for CDM project activities
(Version 01.0)

Complete this form in accordance with the "Attachment: Instructions for filling out the validation report form for renewal of crediting period for CDM project activities" at the end of this form.

VALIDATION REPORT FOR RENEWAL OF CREDITING PERIOD (RCP)

Title of the project activity:	Ganpati co-generation project at Medak, Andhra Pradesh
Reference number of the project activity:	0370 ¹
Number and duration of the next crediting period:	Crediting period :03 and duration of the crediting period is 7 Year Renewable (01/01/2017-31/12/2023)
Version number of the validation report for RCP :	01
Completion date of the validation report for RCP :	30/09/2016
Version number of PDD to which this report applies :	10
Project participant(s) :	Ganpati Sugar Industries Limited (India) - Noble Carbon Credits Limited (United Kingdom of Great Britain and Northern Ireland) - Vitol S.A (Switzerland)
Host Party:	India
Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s) :	AMS-I.C. ver. 20 Thermal energy production with or without electricity (EB79 Annex 14)
Estimated annual average GHG emission reductions or net anthropogenic GHG removals in the next crediting period :	47,080 tCO _{2e}
Name of DOE :	 LGAI Technological Center, S.A. (LGA Tech. Center S.A)
Name, position and signature of the approver of the validation report for RCP:	 Juan Sendín Caballero , B.U Systems Certifications Manager

¹<https://cdm.unfccc.int/Projects/DB/SGS-UKL1146080365.67/view>

SECTION A. Executive summary

The project activity consists of set up of bagasse co-generation facility at Ganapati Sugar Industries Limited's (GSIL) sugar mill at Sanga Reddy, Medak District of Telangana state (part of earlier Andhra Pradesh state²) India. The bagasse to be used as fuel is the bagasse generated by the sugar mill in the plant premises itself.

Started in 2001 (project implementation), the project activity was among the first in India consisting of a high pressure boiler configuration (most sugar mills in India having co-generation units operate with low pressure boiler configuration of below 45 kg/cm² (majority are in the range of 21 kg/cm² to 45 kg/cm²) to cater to the in-house steam and power requirements). On the date of finalization of the project, there were less than 4 similar projects implemented and operational in India, of which 3 were in the state of Tamilnadu. The relatively low efficiency being a design choice historically made in the Indian sugar industry to eliminate the build-up of mountains of bagasse that represents an environmental and fire hazard. Despite being an in-efficient utilization of resources, most sugar mills continue to operate under this Business as Usual scenario.

The project is a grid connected sustainably grown biomass based co-generation power plant with a high pressure steam turbine configuration. The plant is designed to operate with boiler outlet steam parameters 75 MT/Hr, of 66 kg/cm² and 485°C using bagasse as the primary fuel and other biomass as secondary fuel where as at the inception itself the boiler was de-rated to 55 TPH. The steam turbine rated capacity is 15 MW.

The predominant technology in all parts of the world today for generating megawatt (MW) levels of electricity from biomass is the steam-Rankine cycle, which consists of direct combustion of biomass in a boiler to generate steam, which is then expanded through a turbine. Most steam cycle plants are located at industrial sites, where the waste heat from the steam turbine is recovered and used for meeting industrial – process heat needs.

Validation Scope: The scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology AMS.I.C, version 20. The validation was based on the requirements in the Validation and Verification Standard (VVS version 09)

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design document.

Once Applus+ LGAI receives the initial PDD version 09, it performed desk review for the same.

Validation Process: The project assessment is based on the "Clean Development Mechanism Validation and Verification Standard version 09.0 and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the CDM Renewable crediting project activity are appointed.

²As per Andhra Pradesh reorganization Act, 2014, the state of Andhra Pradesh is bifurcated into Telangana and residuary Andhra Pradesh. As per this new act, the Medak district where project activity is located comes under Telangana state. Thus Andhra Pradesh mentioned in PDD represents the new Telangana state as per Andhra Pradesh reorganization Act, 2014. The same is checked and found correct by the assessment team. There is no change in legislation which could affect the project activity.

Once the project is made available to the DOE, the members of the assessment team carried out:

- I A desk review of the project design documentation;
- II Follow-up interviews with project stakeholders;
- III The resolution of outstanding issues and the issuance of the final validation report and opinion.

The prepared Renewable crediting period validation report and other supporting documents then undergo an internal quality control at the HQ (Accredited office) before being submitted to the CDM-EB for Request for registration in case of positive validation opinion.

In order to ensure transparency, assumptions must be clear and stated explicitly and background material must also be referenced. Applus+ LGAI has developed a specific checklist customized for the project. The checklist demonstrates, in a transparent manner, the project criteria (requirements), discussion on each criterion by the assessment team, and the results from validating the identified criteria.

The renewable crediting period validation checklist consists of three tables. The different columns in these tables are described in the tables below

Validation Checklist Table 1: Mandatory Requirements			
Requirement	Reference	Conclusion	Cross reference
The requirements which the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the validation report.	Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent validation process.

Validation Checklist Table 2: Requirement checklist				
Checklist Question	Reference	Comment	Draft Conclusion	Final Conclusion
The various requirements in Table 2 are linked to checklist questions the project should meet. The checklist is organized in several different sections. Each section is then further subdivided. The lowest level constitutes a checklist	Gives reference to documents where the answer to the checklist question or item is found.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification is used when the validation team has identified a need for further clarification. Forward action request to	Conclusions are presented in the same manner based on the assessment of the final PDD version and further documents including assumptions presented in the documentation.

question.			highlight issues related to project implementation that requires review during the first verification.	
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Validation Checklist Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests	Ref. to checklist question in table 1&2	Summary of project owner response	Validation conclusion
If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Table 1&2 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the validation team should be summarized in this section.	This section should summarize the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".

Appointment of the assessment team

According to the sectoral scopes / technical area and experiences in the sectoral or national business environment, Applus+ LGAI has composed a project validation team in accordance with the appointment rules in Applus+ LGAI. The composition of assessment team has to be approved by the Applus+ LGAI ensuring that the required skills are covered by the team. The four qualification levels for team members that are assigned by formal appointment rules as below:

- Leader Auditor (LA)
- Auditor (A)
- Auditor Trainee (T)
- Technical Experts (E)
- Internal Technical Review (ITR)

It is required that the sectoral scope / technical area related to the methodology has to be covered by the assessment team.

The detail regarding the assessment team is provided below in section B.1 and B.2 of this report

Document review

The Project Design Document for the present renewable crediting period submitted by the Client was reviewed against the approved current methodology AMS.I.C version 20 and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in Appendix 3 of this report.

Follow-up interviews

A site visit is conducted by Applus+ LGAI performed interviews, telephone conferences, and physical site inspection with project stakeholders to confirm selected information and to resolve issues identified in the document review. The detail is provided in section C.2 and C.3 of this report

Resolution of Clarification and Corrective Action Request

The objective of this phase of the validation for renewable crediting period was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ LGAI's positive conclusion on the project design document. The Corrective Action Requests and Clarification Requests raised by Applus+ LGAI were resolved during communications between the Client and Applus+ LGAI to guarantee the transparency of the validation process, the concerns raised and responses given are summarized in Appendix 4 below.

The final PDD version 10 submitted by PP on 29/09/2016 serves as the basis for the final assessment presented. Additional changes to the project during the validation process are not considered to be significant with respect to the main CDM objectives for renewable crediting period. The two CDM main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Internal quality control

As final step of a validation of the final documentation including the validation report for renewable crediting period and the checklist have to undergo an internal quality control by the technical review committee, i.e. each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one to avoid any conflict of Interest.

After confirmation of the PP the validation opinion (if positive) and relevant documents are submitted to the EB through the UNFCCC dedicated web-platform

Conclusion

Applus+ LGAI has performed a validation of the renewable crediting period for the project entitled "Ganpati co-generation project at Medak, Andhra Pradesh". The validation for renewable crediting period was performed on the basis of UNFCCC criteria and host country criteria, as well as criteria, e.g. AMS.I.C version 20, given to provide for consistent project operations, baseline, monitoring and reporting.

The review of the project design documentation for renewable crediting period and the subsequent follow-up interviews have provided Applus+ LGAI with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by Applus+ LGAI for registration with the UNFCCC.

By displacing fossil fuel-based electricity with electricity generated from a renewable source, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. An analysis of the investment and technological barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of annual emission reductions of 47,080tCO_{2e}.

The validation has been performed following the requirements of the latest version of the CDM VVS version 09 and on the basis of the contractual agreement. The single purpose of this report is its use during the registration process as part of the CDM/UNFCCC project cycle.

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader	ER	DAS	SUKANTA	Outsource entity	Y	Y	Y	Y
	Technical Expert	ER	DAS	SUKANTA	Outsource entity	Y	Y	Y	Y

B.2. Technical reviewer and approver of the validation report for RCP

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Sitjes	Miquel	Applus+ LGAI
2.	Technical reviewer	IR	Vega	Natalia Rodrigo	Applus+ LGAI

SECTION C. Means of validation

C.1. Desk review

The details of the document observed during desk review /validation process are listed below in Appendix 3 of this report.

C.2. On-site inspection

Duration of on-site inspection:26/09/2016				
No.	Activity performed on-site	Site location	Date	Team member
1.	Assessment team checked the implementation of the project, Baseline emission, and Emission reduction calculation, technical description of the project and Monitoring for the renewable crediting period assessment.	Sanga Reddy Mondal, Medak District, Telangana state (part of earlier Andhra Pradesh state), India	26/09/2016	Mr. Das

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Murthy	G. Surya Narayana	GM (Engineering), Ganpati Sugar Industries Limited	26/09/2016	Monitoring and Implementation of the project and day to day operations of the power plant.	Mr. Das
2.	Patil	Ramkrishna	GM, EKI energy services Limited	26/09/2016	Implementation of the project, monitoring , continuation of baseline scenario, and emission reduction calculations	Mr. Das

C.4. Clarification requests, corrective action requests and forward action requests raised

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	00	00	00
Application of baseline and monitoring methodology and standardized baseline	00	00	00
Validity of original baseline or its update	00	00	00
Estimated GHG emission reductions or net anthropogenic GHG removals	00	01	00
Validity of monitoring plan	00	02	00
Crediting period	00	00	00
Project participants	00	00	00
Others (please specify): 1. Related to technical descriptions (boilers/turbine) 2. Related to geographical location of the project activity 3. Related to a particular statement made in section A.3 of the PDD	00	03	00
Total	00	06	00

SECTION D. Validation findings**D.1. Compliance with PDD form**

Means of validation	Assessment team checked the PDD version 8.0 forms supplied by the project participant and found that the latest form applicable in the UNFCCC web site is used for the completion of the PDD.
Findings	No CAR raised regarding the compliance with PDD form
Conclusion	The PDD mentions all the criteria as detailed out in PDD form version 8.0 properly and found correct by the assessment team.

D.2. Application of baseline and monitoring methodology and standardized baseline

Means of validation	<p>The assessment team has validated the documentation referred to in the PDD and verified the documentation content for verifying the justification of the applicability of the methodology AMS.I.C version 20 and confirmed that the documentation referred to in the PDD is correctly quoted and interpreted. The assessment team has also crosschecked the information provided in the PDD with the documentation other than from the PDD based on the local and sectoral knowledge of the assessment team. Following documentation has been reviewed by the assessment team:</p> <ul style="list-style-type: none"> - Site visit - Interview with the concerned person mentioned in this report - Technical detail analysis of the power plant from the documents submitted by the manufacturer. - Commissioning certificates of boiler and turbine <p>The assessment of the project's compliance with the applicability criteria of AMS.I.C version 20 are documented in detail in section B.2 of the PDD.</p>
Findings	<p>Applicability criteria were explained properly as per the requirement of the applied approved methodology for the present crediting period. No NC was raised during the validation process.</p>
Conclusion	<p>The applied baseline methodology is justified as it has been demonstrated that the proposed project activity is:</p> <p>Applicability1: The project activity is a co-generation system based only on bagasse which is a renewable source of energy. The project activity displaces fossil fuel based electricity generation from the grid using renewable fuel, bagasse. Thus this applicability condition is applicable.</p> <p>Applicability2: The project activity is Bagasse based co-generation system, the electricity generated in this process is supplied to the regional grid. Thus, this applicability condition is applicable.</p> <p>Applicability3: Emission reductions of the cogeneration project activity are solely on account of net electrical energy supplied to the grid. Thus, this applicability condition is applicable.</p> <p>Applicability4: The project activity is bagasse based co-generation system. The project activity does not involve any retrofit or modifications on the existing facility. Thus this criterion is not applicable to the project activity.</p> <p>Applicability5: The project activity Green Field project of Type I and does not involve any component of Type II and Type III, hence this criteria is not applicable.</p> <p>Applicability6: The project activity is Bagasse based co-generation system which generates electricity and exports net electricity to grid. Emission reductions of the cogeneration project activity are solely on account of electrical energy supplied to the grid. The total installed electrical energy generation capacity of the project equipment of the cogeneration unit is 15 MWe.</p> <p>Applicability7: The project activity is not a co-fired system and is based solely on renewable fuel (bagasse). This category is not applicable as the system is not co-fired system.</p> <p>Applicability8: Emission reductions of the cogeneration project activity are solely on account of electrical energy production (no emission reductions accrue from thermal energy component). The total installed electrical energy generation capacity of the project equipment of the cogeneration unit is 15MWe and not exceeding the applicable capacity limits of option(c).</p> <p>Applicability9: The project activity does not involve the addition of renewable energy units at an existing renewable energy facility. Thus this criterion is not applicable to the project activity.</p>

	<p>Applicability10: The biomass used for the project is Bagasse produced inside the power plant premises. Thus, this applicability condition is not applicable.</p> <p>Applicability11: Project proponent is the producer of Bagasse and thus applicability condition is not applicable</p> <p>Applicability12: The net electricity generation from the project activity is supplied to state electricity grid. A Power Purchase Agreement (PPA) entered into between Transmission Corporation of Andhra Pradesh Limited (APTRANSCO) and project proponent (GSIL) is in force now. Thus the applicability criterion is applicable to the project activity.</p> <p>Applicability13: The project activity does not involve any recovering and utilizing biogas, hence this criterion is not applicable.</p> <p>Applicability14: The project equipment does not contain any refrigerant, thus this criteria is not applicable</p> <p>Applicability15: The activity is bagasse based co-generation system which is displacing the fossil fuel based electricity generation from the grid. The project activity does not involve any charcoal based energy generation and thus applicability condition is not applicable</p> <p>Applicability16: Not applicable as project activity uses bagasse and not used any biomass, sourced from dedicated plantations.</p>
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D.3. Validity of original baseline or its update

Means of validation	The baseline scenario as depicted in the PDD version 10 is checked during the validation site visit and also during the interview with the plant official.
Findings	The baseline is selected as per the requirement of the approved methodology AMS.I.C version 20 for the present Crediting period. No NC was raised during the validation process.
Conclusion	<p>Assessment team referred "Methodological tool (EB 66, Annex 47) and VVS version 09" to check the originality of the baseline. Following are the observation of the assessment team regarding selected baseline for the project activity in this present renewable crediting period:</p> <p><u>Step 1.1 (EB 66, Annex 47): Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies</u></p> <p>The baseline for the project activity is the electricity grid from which the project activity connected. The project activity is claiming the emission reductions from the exported quantity of electricity only. In absence of project activity this quantity of electricity would have been generated from the electricity grid mix (mainly fossil fuel). The Government of India enacted the Electricity Act in the year 2003 to harmonize and rationalize the provisions in the then existing laws. The Act consolidated the laws relating to generation, transmission, distribution, trading and use of electricity. With the Enactment of the act, the then existing laws viz, The Indian Electricity Act 1910, The Electricity Supply Act, 1948 and The Electricity Regulatory Commissions Act, 1998 were repealed. The Electricity Act 2003 was in force at the time of the completion of the baseline study during first crediting period.</p> <p>The baseline remains unchanged for the present crediting period since there is no policy been revised and/or is currently in force as well, therefore the baseline scenario is still in compliance with all the relevant mandatory national and/or sectoral policies.</p> <p><u>Step 1.2 (EB 66, Annex 47) : Assess the impact of circumstances</u></p> <p>There are no new circumstances that can impact the original baseline. The baseline value will be updated based on the current data available for the grid.</p>

Step 1.3(EB 66, Annex 47): Assess whether the continuation of the use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested

As per the “Tool to determine the remaining lifetime of equipment”, the remaining lifetime of the equipment is the time for which the existing equipment can continue to operate before it has to be replaced/discarded. As per this Tool, Project participant can use one of the following options to determine the remaining lifetime of the equipment:

- (a) Use manufacturer’s information on the technical lifetime of equipment and compare to the date of first commissioning;
- (b) Obtain an expert evaluation;
- (c) Use default value

The project activity is commissioned on 01/01/2003 and since commissioning, the project activity is running satisfactorily. As per default values mentioned in the tool, the technical lifetime of Boilers and Turbines is 25 years. Thus considering the start of operation of project activity, the technical lifetime is up to 31/12/2027 which is well before the end date of third crediting period. Thus the remaining lifetime of equipments exceeds the crediting period for which renewal is requested.

The below conditions are fulfilled. (i) The equipment has been operated and maintained according to the recommendations of the equipment supplier; (ii) There are no periodic replacement schedules or scheduled replacement practices specific to the industrial facility, that require early replacement of equipment before the expiry of the technical lifetime; and (iii) The equipment has no design fault or defect and did not have any industrial accident due to which the equipment cannot operate at rated performance levels.

An independent expert P.S Mohana Rao , Chartered Engineer having relevant experience in evaluating the remaining lifetime for the type of equipment has been approached and requested to determine the remaining lifetime of the equipment. The analysis on the information evaluated is done based on “Conducting tests on the equipment, such as magnetic particle examinations, ultrasonic testing, and visual inspection”. The expert has stated his method of evaluation and provided his expert evaluation conclusion stating the estimated remaining lifetime of the equipment is 15 years. The assessment of remaining life time of the equipments had been done and confirmed that the remaining technical lifetime of the equipment of the project activity is 15 years which exceeds the crediting period for which renewal is requested. As the remaining technical lifetime of the equipment is not less than the end of the crediting period for which renewal is requested, the current baseline holds good for this crediting period too.

Step 1.4(EB 66, Annex 47): Assessment of the validity of the data and parameters

This step stipulates that “Where emission factors, values or emission benchmarks are used and determined only once for the crediting period, they should be updated, except if the emission factors, values or emission benchmarks are based on the historical situation at the site of the project activity prior to the implementation of the project and cannot be updated because the historical situation does not exist anymore as a result of the CDM project activity.”

The project chosen ex-ante default value i.e. EF and IPCC. As per the Guidance given in Tool (EB 66, Annex 47) the emission factor is updated as follows:

EF calculation for the present renewable crediting period:

1. The operating margin is calculated as per the latest version of CEA (Version 11) available to the project participant. The operating margin calculation is checked by the assessment team and found correct.
2. The build margin is considered from 2nd crediting period value as per Para

	<p>70 (a) "Tool to calculate the emission factor for electricity system" version 05. The value considered is checked by the assessment team and found correct</p> <p>3. The Combined margin calculation is carried out as per Para 84 (b) "Tool to calculate the emission factor for electricity system" version 05. The value considered is checked by the assessment team and found correct</p> <p>The emission factor is fixed ex-ante and thus will be used for the complete 3rd renewable crediting period and for entire verification conducted under 3rd renewable crediting period.</p> <p>IPCC default value is considered as per 2nd crediting period as there is no change in IPCC guideline i.e. Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion" & IPCC 2006 default values. Volume 2, Chapter 1: Introduction. Hence the IPCC default values are correct and appropriate for this 3rd renewable crediting period.</p> <p>Application of Steps 1.1, 1.2, 1.3 and 1.4 confirmed that the current baseline is valid for the third crediting period but data and parameters needs to be updated. Therefore step 2 is used</p> <p>Step 2: Update the current baseline and the data and parameters</p> <p>Step 2.1: Update the current baseline This step is applicable since the Steps 1.1, 1.2, 1.3 and/or 1.4 showed that the current baseline needs to be updated. As evident from the explanation provided above the baseline scenario remains unchanged.</p> <p>Updated the baseline emissions based on the latest approved version of the methodology applicable to the project activity for the subsequent crediting period, without reassessing the baseline scenario.</p> <p>Step 2.2: Update the data and parameters The updated Data and/or parameter are followed for estimating the baseline emissions</p> <p>The baseline for the project activity is thus as below: As per Paragraph 36 of approved methodology AMS.I.C. Version 20, "<i>For project activities that do not displace captive electricity generated by an existing plant but displace grid electricity import and/or supply electricity to a grid, the emission factor of the grid shall be calculated as per the procedures detailed in "AMS-I.D: Grid connected renewable electricity generation" or "AMS-I.F: Renewable electricity generation for captive use and mini-grid"</i></p> <p>Hence as per AMS.I.D version 18 (latest Methodology), the baseline of the project is as follows: Para 22: Baseline emissions include only CO₂ emissions from electricity generation in power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants</p> <p>The above selected baseline is correct and thus applicable to the project activity and in line with approved methodology.</p>
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D.4. Estimated GHG emission reductions or net anthropogenic GHG removals

Means of validation	The emission reduction sheet, CEA database and PDD version 10 is checked by the assessment team.
Findings	The emission reduction calculation is checked by the assessment team. However CAR 06 was raised during the validation process. Please check Appendix 4 for the

<p>Conclusion</p>	<p>complete closure of the CAR.</p> <p>The baseline emissions as discussed in section B.6.1 will include emissions that would have occurred in the absence of the project activity. The emission reduction calculation has been done as per the AMS-I.D., Version 18.0 (As referred by AMS.I.C version 20).</p> <p><u>Baseline Emission (BE_y):</u></p> $BE_y = EG_{PJ,y} \times EF_{grid,y} \text{-----}(1)$ <p>Where BE_y = Baseline Emissions in year y; (tCO₂) $EG_{PJ,y}$ = Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh) $EF_{grid,y}$ = Grid emission factor (MWh/tCO₂)</p> <p>PP has estimated the baseline energy generation considering the capacity of the project activity, yearly generation hour and plant load factor. The project activity involves installation of 15MWe grid connected power plant in the state of A.P. Validation team assessed the technical specification of the promoters of the project activity, Power purchase agreement and found that installed capacity of this project activity is correct.</p> <p>Baseline emission factor is calculated as combined margin, consisting of a combination of operating margin (OM) and build margin (BM) factors according to the procedure prescribed in the "Tool to calculate the emission factor for an electricity system" version 5.0 which is sourced from CEA, Govt. of India and forms the part of emission reduction calculation. The baseline emission factor calculation is checked by the validation team and found that the calculation is transparent and conservative.</p> <p><u>Project Emissions:</u></p> <p>As per paragraph 65 of the AMS.I.C version 20 methodology, and according to the operation of the project activity the following is the only source for the project emissions:</p> <p>CO₂ emissions from on-site consumption of fossil fuels due to the project activity shall be calculated using the latest version of "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion"</p> <p>The project activity is renewal based electricity generation and can only fire bagasse as fuel (The local regulation also constraint use of fossil fuels for the bagasse based co-gen system implemented in sugar industry) and the emission reductions are calculated based on the net electricity supplied to the grid. Since it is not a co-fired plant, the amount of fossil fuel input to the project activity need not to be monitored.</p> <p>Fossil fuel combustion (diesel) in standby DG sets during trial runs and maintenance activities only (not for power generation purpose in the project activity) is included as a monitoring parameter. The consumption records of Diesel in DG set for maintenance purposes can be cross checked with the log books and purchase records. If diesel is consumed for the project activity, the project emissions from the same are calculated as below:</p> <p>As per formula 1 provided in "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion", Version 02, CO₂ emissions from fossil fuel combustion is as follows:</p> <p>Project emissions due to diesel consumption for electricity generation are based on Option B of "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion":</p>
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$$PEFC_{j,y} = \sum FC_{i,j,y} \times COEF_{i,y}$$

Where :

$PEFC_{j,y}$ Are the CO₂ emissions from fossil fuel combustion in process j during the year y (tCO₂/yr);

$FC_{i,j,y}$ Is the quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr);

$COEF_{i,y}$ Is the CO₂ emission coefficient of fuel type i in year y (tCO₂/mass or volume unit)

For the project activity, since the CO₂ emissions from fossil fuel combustion are only from diesel consumption for electricity generation. The above formula can henceforth be referred as:

$$PE_y = FC_{diesel} \times COEF_{diesel}$$

Where :

PE_y Are the CO₂ emissions from diesel consumption during the year y (tCO₂/yr);

FC_{diesel} Is the quantity of diesel consumed in process during the year y (tons/yr), which equals to the Quantity of diesel consumed in litres/yr times the density of diesel (ρ_{diesel}) in kg/lit and divide by 1000 kg/ton to convert the unit of FC_{diesel} to tons/yr.

$COEF_{diesel}$ Is the CO₂ emission coefficient of diesel in year y (tCO₂/ton).

$COEF_{diesel}$ is based on Option B of "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion". $COEF_{diesel} = NCV_{diesel} \times EFCO_2, diesel$

The CO₂ emission coefficient COEF is based on Option B of "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion". Option A for calculating the CO₂ emission coefficient is not used, as the necessary data is not available since the approach is based on the chemical composition of the fossil fuel type. Hence the preferred approach is Option B of "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion", Version 02, to calculate the CO₂ emission coefficient ($COEF_{i,y}$)

Therefore, Project emissions due to diesel consumption for electricity generation (PE_y) can be calculated finally as follows:

$$PE_y = FC_{diesel} \times NCV_{diesel} \times EFCO_2, diesel$$

Where:

FC_{diesel} Is the quantity of diesel consumed in process during the year y (tons/yr),

NCV_{diesel} Is net calorific value of the diesel (GJ/ton)

$EFCO_2, diesel$ Is the CO₂ emission factor of diesel in year y (tCO₂/GJ)

Option B: The CO₂ emission coefficient $COEF_{i,y}$ is calculated based on net calorific value and CO₂ emission factor of the fuel type i, as follows:

$$COEF_{i,y} = \sum NCV_{i,y} \times EFCO_2, i, y$$

Where :

$COEF_{i,y}$ Is the CO₂ emission coefficient of fuel type i in year y (tCO₂/mass or volume unit)

$NCV_{i,y}$ Is the weighted average net calorific value of the fuel type in year y (GJ/mass or volume unit)

$EFCO_2, i, y$ Is the weighted average CO₂ emission factor of fuel type i in year y (tCO₂/GJ)

Therefore Project emissions due to diesel consumption for electricity generation:

	$PEFC_{i,j,y} = \sum FC_{i,j,y} \times NCV_{i,y} \times EFCO_{2,i,y}$ <p>NCV_{diesel} is net calorific value of diesel, 43.3 GJ/ton from IPCC 2006 default values at the upper limit of uncertainty at a 95% confidence interval. Volume 2, Chapter 1: Introduction.</p> <p>EFCO_{2,i,y} is the carbon emission factor of diesel 0.0748 tCO₂/GJ from IPCC 2006 default values at the upper limit of uncertainty at a 95% confidence interval. Volume 2, Chapter 1: Introduction.</p> <p><u>Leakage Emissions:</u></p> <p>As per the guidance by the latest methodology AMS.I.C.Version 20, Para 76 states that "If the energy generating equipment currently being utilised is transferred from outside the boundary to the project activity, leakage is to be considered".</p> <p>No leakage emissions are considered for the proposed project activity since no energy generating equipment is from outside the boundary to the project activity transferred from another activity and/or the existing equipment is transferred to another activity.</p> <p>Further Para 77 states that "In case collection/processing/transportation of biomass residues is outside the project boundary CO₂ emissions from collection/processing/transportation (If biomass residues are transported over a distance of more than 200 kilometres due to the implementation of the project activity then this leakage source attributed to transportation shall be considered, otherwise it can be neglected) of biomass residues to the project site".</p> <p>The biomass used in the project activity is the mill generated bagasse available within the project premises. Collection/processing/transportation of bagasse is within the sugar plant and not outside the project boundary. Hence no leakage sources are considered and CO₂ emissions from same are zero.</p> <p><u>Emission Reductions:</u></p> <p>The project activity reduces carbon dioxide emissions through displacement of grid electricity generation with predominantly fossil fuel based power plants³ by renewable electricity. The emission reduction (ER_y) due to project activity during a given year y is calculated as the difference between baseline emissions (BE_y), project emissions (PE_y) and emissions due to leakage (LE_y), as per the formulae given below:</p> $ER_y = BE_y - PE_y - LE_y$ <p>Where,</p> <p>BE_y = Baseline emissions in the year y in tCO_{2e}</p> <p>PE_y = Project emissions in the year y.</p> <p>LE_y = Emissions due to leakage in the year y.</p>
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D.5. Validity of monitoring plan

Means of validation	Assessment team checked the monitoring practice onsite and also checked the requirement of AMS.I.C version 20
Findings	Assessment team raised concern regarding the Monitoring and supporting document. The detail of the Non conformity can be obtained in CAR 04 and CAR 05 in this report. Please check Appendix 4 for the successful closure of both the CARs.
Conclusion	<p><u>Parameters determined ex-post:</u></p> <p>EG_{BL,y}: Net electricity supplied to the grid by the project activity: This parameter is calculated as a difference of electricity export to grid after meeting captive and</p>

³http://www.cea.nic.in/power_sec_reports/general_review/0304/tables.pdf

auxiliary power requirement and electricity import from grid. Data will be archived electronically and on paper. Archived data will be kept during the crediting period plus 2 years or the last issuance of CERs for this project activity, whichever occurs later

$EG_{\text{export},y}$: Electricity exported to the grid after meeting captive & auxiliary power requirements during the year y . Power export to grid is measured by energy meters installed at APTRANSCO substation. A monthly Joint Meter Reading (JMR) for the energy exported to the Grid is recorded by representatives of APTRANSCO (Grid operator) and project proponent (GSIL).

This parameter is used to calculate Net electricity supplied to the grid by the project activity ($EG_{\text{BL},y}$) which is further considered for CERs calculation purpose.

Meters based with best accuracy procured from reputed manufacturers are calibrated to national standards. The calibration and meter accuracy class is under purview of state electricity board and PP does not have any control on it. Thus calibration interval and meter accuracy class will vary in future. As per CEA notification, the calibration frequency of meters should be once in five years

$EG_{\text{import},y}$: Electricity import from grid to the project activity during the year y : Power import from grid is measured by energy meters installed at APTRANSCO substation. A monthly Joint Meter Reading (JMR) for the energy exported to the Grid is recorded by representatives of APTRANSCO (Grid operator) and project proponent (GSIL).

This parameter is used to calculate Net electricity supplied to the grid by the project activity ($EG_{\text{BL},y}$) which is further considered for CERs calculation purpose

Meters based with best accuracy procured from reputed manufacturers are calibrated to national standards. The calibration and meter accuracy class is under purview of state electricity board and PP does not have any control on it. Thus calibration interval and meter accuracy class will vary in future. As per CEA notification, the calibration frequency of meters should be once in five years

$EG_{\text{thermal},y}$: Net quantity of thermal energy supplied by the project activity during the year y : Heat generation is determined as the difference of the enthalpy of the steam generated by the heat generation equipment and the sum of the enthalpies of the feed-fluid and/or gases blow-down and if applicable any condensate returns. The respective enthalpies should be determined based on the mass (or volume) flows, the temperatures and, in case of superheated steam, the pressure. Steam tables or appropriate thermodynamic equations may be used to calculate the enthalpy as a function of temperature and pressure

$B_{\text{Biomass},y}$: Quantity of bagasse used in the project activity: The measurement will be done using (Load cell/ Weigh bridge). Cross-check the measurements with an annual energy balance that is based on bagasse generated quantities and stock changes. Estimated based on cane crushed, steam generation, bagasse production, open stock bagasse and closed stock bagasse etc

(Bagasse consumed = opening stock - closing stock + generated Bagasse stored in yard)

NCV_{bagasse} : Net calorific value of bagasse used in the project activity: Measurement in laboratories according to relevant national/international standards. Measure quarterly, taking at least three samples for each measurement. The average value can be used for the rest of the crediting period. If this parameter is measured through internal laboratory, then Calibration frequency is either subject to appropriate intervals according to industry standards or with a minimum frequency of once a year.

If this parameter is measured through external NABL Accredited Laboratory, no any calibration certificates required. Data will be archived electronically and on paper.

	<p>Archived data will be kept during the crediting period plus 2 years</p> <p>Moisture_{bagasse}: Moisture content of bagasse used in the project activity: The moisture content of bagasse used in the project activity will be determined as per authorised laboratory test report. The weighted average shall be calculated for each monitoring period as per the applied methodology. In case of measurement of this parameter through internal laboratory, Calibration frequency is either subject to appropriate intervals according to industry standards or with a minimum frequency of once a year.</p> <p>If this parameter is measured through external NABL Accredited Laboratory, no any calibration certificates required.</p> <p>FC_{i,j,y} (Diesel) : Quantity of diesel consumed in DG set for electricity generation used by project activity: The diesel quantity and source are maintained at the point of entry by stores department. Diesel once received by stores department will be issued to DG set department as and when required. Stores department maintains receipt, issue data everyday in excel sheet and takes issue slips from DG set department for the issued Quantity. The amount of diesel consumed by DG set is measured by using a level measuring gauge in the tank continuously and the same is cross verified with the issue slips</p> <p>The responsibilities and authorities of project management, data handling and recording, measurement methods and QA/QC procedure have been systematically established and formalized and the same was verified during the site visit.</p>
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D.6. Crediting period

Means of validation	The crediting period is checked as per UN home page and discussion with Client
Findings	No CAR was raised regarding crediting period.
Conclusion	This is 3 rd renewable crediting period and the duration is 7 year renewable (01/01/2017- 31/12/2023)

D.7. Project participants

Means of validation	The project participant names were checked from UN homepage (https://cdm.unfccc.int/Projects/DB/SGS-UKL1146080365.67/view)		
Findings	No CAR was raised regarding project participant		
Conclusion	Following are the details of PP (host country) and Annex 1 country. The same is correct and in line with PDD registered under 1st and 2nd Crediting period as well as MOC obtained from UN home page.		
	Party involved (host) indicates host Party	Private and/or public entity(ies) project participants (as applicable)	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
	India (Host Party)	Ganpati Sugar Industries Limited	No
	United Kingdom of Great Britain and Northern Ireland	Noble Carbon Credits Limited	No
	Switzerland	Vitol S.A	No

D.8. Post-registration changes

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline	N	NA	NA
Corrections	N	NA	NA

Inclusion of a monitoring plan to a registered project activity	N	NA	NA
Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline	N	NA	NA
Changes to the project design of a registered project activity	N	NA	NA
Types of changes specific to afforestation and reforestation project activities	N	NA	NA

SECTION E. Internal quality control

As final step of a validation of the final documentation including the Renewable crediting period validation report and the checklist have to undergo an internal quality control by the technical review committee, i.e. each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one to avoid any conflict of Interest.

After confirmation of the PP the validation opinion and relevant documents are submitted to the EB through the UNFCCC web-platform

SECTION F. Validation opinion

Applus+ LGAI has performed a validation of renewable 3rd crediting period for the project entitled "Ganpati co-generation project at Medak, Andhra Pradesh". The validation was performed on the basis of UNFCCC criteria and host country criteria, as well as criteria, e.g. AMS.I.C version 20, given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided Applus+ LGAI with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by Applus+ LGAI for registration (renewable CP) with the UNFCCC.

By displacing fossil fuel-based electricity with electricity generated from a renewable source, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. An analysis of the investment and technological barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of annual emission reductions of 47,080 tCO₂e.

The validation has been performed following the requirements of the latest version of the CDM VVS version 09 and on the basis of the contractual agreement. The single purpose of this report is its use during the registration process as part of the CDM/UNFCCC project cycle.

Appendix 1. Abbreviations

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction(s)
CEA	Central Electricity Authority
CL	Clarification request
CP	Crediting period
CM	Combined Margin
CMS	Central Monitoring system
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EF	Emission Factor
ER	External Resource
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming potential
IR	Internal Resource
PP	Project Participant
PPA	Power Purchase agreement

Appendix 2. Competence of team members and technical reviewers

1. Mr. Sukanta DAS, has done M. SC in (Electronics and Photonics) and M. Tech in (Energy technology) from Tezpur Central University/ Indian Institute of technology Bombay in India respectively. He is a certified lead auditor for ISO 14001 EMS LA and ISO 9001 QMS LA from International registry for Certified Auditors (IRCA) and Certified Lean Management practitioner from Quality Council of India (QCI). He has more than eight years of working experience at TUV NoRD/ Re-consult/CRA/APPLUS certifications under various categories of projects stating from Renewable to waste to supercritical projects. He was JI/ CDM Lead Assessor in TUV NoRD and was involved in more than 100 CDM validation and verifications activities in Gold Standard, VCS, CDM projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1, 13 technical areas 1.2/1.1/13.1. Currently he is associated with True Quality Certifications Private Limited and is empanelled with APPLUS certification to carry out GHG audit.
2. Mr. Miquel Sitjes Cabanas has a Bachelor Science degree in Chemistry by the Universidad de Barcelona - Spain (1975). He has 15 years of experience in a Spanish chemical group company specialized in the manufacturing of raw chemical products, where he worked as the Manager of Production and Quality and Environmental Control. He also worked in the Spanish pharmaceutical industry for 7 years as Quality, Manufacturing and Environmental Manager. Currently, he works for Applus+ LGAI Technological Center since 1999. Since 2006, he is the Technical Manager of Applus+LGA, working under quality, and environmental standards such as ISO 9001, ISO 14001, GHG Verification, CDM, VCS and GS
3. Ms. Natalia Rodrigo Vega has a Bachelor's Degree on Environmental Engineering and Master's Degree on Environmental and Quality Management System (under ISO 9001 and 14001).
She Works in Applus Environmental and Quality Management Systems Department since March 2012, being specially involved on technical support tasks related to CDM-VCS and GS Standards, among others (i.e. GHG verification and ProyectoClima)

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	NA	Contract of the project participant with the DOE	Contract document signed between PP and DOE	Project participant
2	NA	Technical specifications of turbine and boiler	Manufacturer technical specifications	Project participant
3	NA	Initial PDD : version 09 Final PDD based on which opinion is provided- version 10	16/05/2016 29/09/2016	Project participant
4	NA	Emission reduction calculation sheet-version 01	29/09/2016	Project participant
5	NA	The operational lifetime of the project activity from the manufacturer=(Technical specifications)	Certified by Chartered engineer regarding lifetime details of the equipments installed	Project participant
6	NA	AMS I C version 20"Thermal energy production with or without electricity (EB79 Annex 14)	UNFCCC CDM web site	UNFCCC
7	NA	Ministry of Environment and forest: www.envfor.nic.in UNFCCC www.cdm.unfccc.int CEA: Central electricity authority www.cea.nic.in	Reference link is provided.	Independent Search
8	NA	Tools/ guidelines used in the project activity <ul style="list-style-type: none"> • Clarification on national and/or sectoral policies Para 27 EB 55 • Tool to determine the remaining lifetime of the project activity in line with Annex 15 EB 50 • Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion, Version 2, EB 41 • Tool to calculate the emission factor for an electricity system version 05 • Glossary of CDM terms version 07 	UNFCCC CDM web site	UNFCCC

		<ul style="list-style-type: none"> Guideline for completing the PDD form for small scale CDM project activity version 8.0 Methodological tool: EB 66 Annex 47. 		
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Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CAR from this validation

CAR ID	01	Section no.	A.3	Date: 27-09-2016
Description of CAR				
During the document review it was observed that complete technical details of the turbine, boiler is missing. PP is requested to submit the technical details for further cross check. Corrective action is sought.				
Project participant response				Date: 29/09/2016
The section A.3 of PDD has already mentioned technical details of project activity including boiler and turbine. The evidence is provided for the same.				
Documentation provided by project participant				
Boiler and Turbine technical Specifications				
DOE assessment				Date: 29-09-2016
The technical specifications of the boiler and turbine is now cross checked with the information as mentioned in section A.3 of the revise PDD version 10. The technical details of the equipment installed onsite are as per the manufacture specifications and also previous PDD of the 2 nd Crediting period. The technical details were also checked during the 3 rd CP validation onsite visit and found correct.				
CAR is thus closed.				

CAR ID	02	Section no.	A.2.4	Date: 27-09-2016
Description of CAR				
During the document review it was observed that exact geographical location of the project activity is missing. Corrective action is sought.				
Project participant response				Date: 29/09/2016
The Map is corrected with showing correct location of Medak district. The arrow is corrected in the map.				
Documentation provided by project participant				
Revised PDD version 10 dated 29/09/2016				
DOE assessment				Date: 29-09-2016
The geographical location of the Plant site is now addressed properly in section A.2.4 of the revise PDD. The revise PDD and exact geographical locations were checked during the site visit and it was observed that the same as mentioned in the PDD (for 3 rd CP) is correct.				
CAR is thus closed.				

CAR ID	03	Section no.	A.3	Date: 27-09-2016
Description of CAR				
In section A.3 of the PDD it is mentioned that “ <i>The initial Power Purchase Agreement entered into with the Transmission Corporation of Andhra Pradesh Limited for the sale of power to the grid at INR 2.25 per KW Hr.....It should be pointed out that this is currently under dispute</i> ”. Please clarify the statement				
Project participant response				Date: 29/09/2016
The same condition is there as on today, as that case is under court jurisdiction and yet to be concluded. Thus same is applicable now. Thus the same Para is kept as it mentioned in registered PDD.				
Documentation provided by project participant				
Revised PDD version 10 dated 29/09/2016				
DOE assessment				Date: 29-09-2016
DOE has observed that the sentence mentioned in PDD is still valid as dispute is not resolved yet. Thus keeping the same information in revised PDD is accepted. DOE also checked at this point of validation that the tariff rate does not have any impact on project additionality, thus there is no impact on the project activity even after resolution of current ongoing dispute. Thus CAR is closed				

CAR ID	04	Section no.	B.7.1	Date: 27-09-2016
Description of CAR				
The measurement method of “Quantity of biomass” is not explained as per the requirement of the methodology. Kindly provide detail regarding annual mass/energy balance for measurement.				
Also, the cross check criteria are also not mentioned/detailed out (Sales receipt) as per the requirement of the AMS.I.C version 20. Corrective action is sought.				
Project participant response				Date: 29/09/2016
The parameter Quantity of biomass “is monitored as per methodology requirement. The cross check approach along with mass/energy balance is mentioned in revised PDD as per methodology requirement. There will not be any sales receipt for cross check as bagasse is generated in sugar mill itself. The cross check mechanism for biomass/bagasse is mentioned in PDD through inventory.				
Documentation provided by project participant				
Revised PDD version 10 dated 29/09/2016				
DOE assessment				Date: 29/09/2016
The quantity of the biomass will be measured as per the mass measurement (Weigh bridge/Load cell) - {primary source of data} which is in line with Methodology requirement and thus acceptable.				
As required by the methodology the cross check will be done using Mass and Energy balance. The formula as mentioned in the PDD is checked and DOE confirms that the same is standard used practice for biomass boiler in India. The cross check is done basically with the details of the inventory (i.e.Bagasse consumed= opening stock-closing stock +generated Bagasse stored in yard) and the formula is thus correct.				
The PDD is now revised with the methodology requirement and thus CAR is closed.				

CAR ID	05	Section no.	B.7.1	Date: 27-09-2016
Description of CAR				
As per AMS.I.C version 20 "if emission reductions of the cogeneration project activity are solely on account of electrical energy production (i.e. no emission reductions accrue from the thermal energy component), thermal energy used to produce electrical energy also need to be monitored where applicable. Also those parameters are required to be monitored where energy balance is used to cross-check the net quantity of biomass consumed in year y". Please explain whether all the parameters are monitored as per the requirement of the monitoring methodology.				
Project participant response				Date: 29/09/2016
The parameter of "Net quantity of thermal energy supplied by project activity" ($EG_{\text{thermal}, y}$) is included as monitoring parameter. This parameter is monitored in line with methodology requirement.				
Documentation provided by project participant				
Revised PDD version 10 dated 29/09/2016				
DOE assessment				Date: 29/09/2016
The Net quantity of thermal energy supplied by project activity is now included in the revised PDD as per the methodological requirements. The measurement procedure for the same is as per the requirements of the methodology and onsite practices.				
Based on the revision of the PDD CAR is thus closed.				

CAR ID	06	Section no.	B.7.2	Date: 27-09-2016
Description of CAR				
During the document review the following inconsistencies are observed regarding emergency preparedness:				
<ol style="list-style-type: none"> 1. PP needs to detail out how the emission reduction would be calculated for a particular monitoring period when both the meters are out of order (Apportioning procedure)? 2. If the billing period date and monitoring period start date are not same, what procedure will be applied for the same? 				
Corrective action is sought for the same.				
Project participant response				Date: 29/09/2016
<ol style="list-style-type: none"> 1. The below information is added in PDD - If main meter is out of order, check meter is used and if both main and check meter are out of order, the electricity export will be calculated as per PPA signed between PP and APTRANSCO. 2. PP will follow monitoring period based on seasons, thus there will not be any mismatch in billing period and monitoring period. However whenever required, PP is recording daily data of export, thus daily data will be used for ER calculations. 				
Documentation provided by project participant				
Revised PDD version 10 dated 29/09/2016				
DOE assessment				Date: 29/09/2016
Following are the observation of the DOE:				
<ol style="list-style-type: none"> 1. As per the PPA the net electricity supplied will be measured as per the main meter installed onsite. If the main meter is out of order, reading from the check meter is acceptable. if both main and check meter are out of order, the electricity export will be calculated as per PPA signed between PP and APTRANSCO. The explanation is thus acceptable to the DOE and thus CAR is closed. 2. The biomass generation is always season wise and standard practice followed in India. Hence mismatch of monitoring period and billing period cannot occur and thus CAR is closed. 				